



8th International Workshop
on Anthocyanins



The 8th International Workshop on Anthocyanins

Montpellier (France)

16-18/09/2015



Anthocyanin profiles of non-*V. vinifera* genotypes

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Anthocyanins are the main compounds responsible for the colour of red grapes and wine. They play a key role in determining the quality of grape berries. Today, wild *Vitis* genotypes represent an important source of genetic resistance to biotic and abiotic stresses. In fact, these genotypes are used in breeding programs with *V. vinifera* in order to improve *V. vinifera* cultivars resistance to phylloxera and powdery mildew diseases (Yang et al. 2014). The resulting inter-specific hybrids present diglucoside anthocyanins which are characteristic of wild *Vitis* genotypes. Since the acceptable limits of diglucoside contained in wine is 15 mg/L (J. A. Considine, E. Frankish 2014), the aim of this work was to study the anthocyanin profiles of 9 wild genotypes collected in four different vintages. Grape skin anthocyanins were analyzed by HPLC-DAD and twenty different anthocyanins were detected and quantified. Diglucoside derivatives were not detected in all wild *Vitis* genotypes. Out of the nine genotypes analyzed one had no diglucoside anthocyanins. In three genotypes less than 5% of the total amount of anthocyanins detected were diglucosides (from 11,6 to 56,9 mg/kg). In the five remaining genotypes more than 50% of the total were found to be diglucosides (from 522,1 to 1829,2 mg/kg). Cluster analysis showed that each genotype had characteristic distributions of anthocyanins consistent between harvest years.

Keywords: non-*V. vinifera* genotypes, anthocyanin diglucosides, resistance, phylloxera, powdery mildew

References

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